



EXECUTIVE SUMMARY

INTERIM CORRECTIVE MEASURES REPORT

Eight Interim Corrective Measures (ICM) alternatives were developed to meet the objective of minimizing or eliminating potential contact with surface water containing trichloroethene (TCE) in the West and Main Kilby Ditches. It should be noted that the preferred alternative will be an interim solution only for the West and Main Kilby Ditch area of the site. Additional investigations will focus on site-wide issues including the overall issues (e.g., migration and potential risk) related to groundwater containing TCE.

Alternative 2 is the most cost effective and implementable alternative for the site and meets the ICM objectives in that the stormwater pipes will be sealed to reduce TCE loading into West Kilby Ditch and the existing fence will continue to be utilized to prevent the potential for human contact with the surface water.

This alternative includes the following components:

- Patch sealing of all leaking joints/cracks in the 84 by 54 inch reinforced concrete arch pipe (RCAP) located west of Coliseum Boulevard, the junction box adjacent to Coliseum Boulevard, the two 65 by 40 inch RCAP under Coliseum Boulevard, and the 18-inch pipe located east of Coliseum Boulevard that runs from the cul-de-sac area north of West Kilby Ditch.
- Utilization of the existing fence to prevent potential human contact with the surface water within the West and Main Kilby Ditches.
- Enhanced monitoring of groundwater and surface water in this area to assess the effectiveness of the effort to reduce groundwater infiltration into the stormwater pipes.

If during the monitoring of the effectiveness of this alternative on TCE concentrations within the West and Main Kilby Ditches, it is determined that groundwater containing TCE is still entering the ditches, then the potential implementation of other alternatives (or combinations of alternatives) analyzed in this report will be re-evaluated.

ES.1 INTRODUCTION

ALDOT, in cooperation with the Alabama Department of Environmental Management (ADEM), has conducted an ICM study at the East Coliseum Ditch Area of the Coliseum Boulevard site in Montgomery,



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Alabama. Surface water samples were collected from a concrete-lined ditch (West Kilby Ditch) east of Coliseum Boulevard (East Coliseum Ditch Area). Concentrations of TCE in these samples have fluctuated, with TCE concentrations ranging from non-detected values (less than 1 microgram/liter [$\mu\text{g/l}$]) to 168 $\mu\text{g/l}$.

The ICM study is being conducted in accordance with Environmental Protection Agency (EPA) guidelines including the identification of interim corrective measure objectives, the identification and screening of appropriate corrective measure technologies, and an analysis of these alternatives. The purpose of the study is to develop, screen, evaluate, and select ICM alternatives that are protective of human health (i.e., eliminate or reduce the potential exposure to TCE in the ditch) and that are potentially capable of meeting requirements proposed by state regulatory agencies.

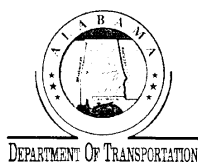
ES.2 ICM OBJECTIVES

Interim Corrective Measures Objectives (ICMOs) are site-specific, qualitative or quantitative initial clean-up objectives that are established on the basis of the nature and extent of the detected constituents of concern (COC), the resources that are currently and potentially threatened, and the potential for human and environmental exposure. Potential human receptors at the site would probably be limited to children playing in the ditch from the surrounding residential communities. The ICMOs include the following:

- Minimize the potential for contact with TCE in the ditch.
- Consider chemical specific Applicable, Or Relevant and Appropriate Requirements (ARARs), such as EPA Maximum Contaminant Levels (MCLs) and Alabama water quality criteria.

ES.3 SCREENING OF TECHNOLOGIES

ICM technologies were screened to eliminate those that were not effective, implementable or reasonable in cost. These criteria were utilized again (in conjunction with others) during the detailed analysis evaluation in this report. In the screening step, technologies were evaluated qualitatively only based on their effectiveness, implementability, and cost. Based on the screening, the retained technologies and process options are summarized as follows:



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- No Further Action
- Monitoring
- Institutional Controls (Access and Land Use Restrictions)
- Access Controls (Covering Ditch Area with Grating and Pipe and Concrete Repair)
- Containment (Interceptor Trench)
- Treatment (In-situ Chemical Oxidation, Reactive Wall, Ex-situ Air Stripping, and Ex-situ Liquid Phase Activated Carbon)
- Groundwater Disposal (Discharge to Surface Water and Discharge to POTW)

ES.4 DEVELOPMENT OF ICM ALTERNATIVES

ICM alternatives have been developed in an effort to represent a wide range of corrective actions in terms of both cost-effectiveness in protection of human health, and of level of difficulty in implementation. These alternatives have been developed to meet the ICM objectives, which focus on minimizing the potential for contact with the TCE in the ditch. The alternatives are provided below.

Alternative 1: No Further Action with Monitoring

Alternative 2: Stormwater Pipe and Concrete Repair

Alternative 3: Covering Ditch Area with Grating

Alternative 4: Interceptor Trench with Treatment and Discharge

Alternative 5: In-situ Chemical Oxidation

Alternative 6: Reactive Wall

Alternative 7: Reactive Interceptor Trench and Discharge

Alternative 8: In-channel Reactive Barrier

ES.5 DETAILED ANALYSIS OF ICM ALTERNATIVES

Alternative 2 is the most cost effective and implementable in that it only requires the sealing of the underground stormwater pipes and use of the existing fence. Sealing the stormwater pipes will significantly reduce the flow of groundwater containing TCE into the ditch. The fence will be left in-place to continue to minimize the potential for human contact with surface water within West and Main Kilby Ditches. Alternatives 7 and 8 are also cost-effective and implementable, but would likely require a bench-scale test prior to implementation. Alternative 3 is expected to be less effective and implementable at the site and is more costly than Alternative 7. Alternative 4 is more-cost effective than Alternative 7 but



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involves ex-situ on-site treatment of groundwater that is not likely to be acceptable by the local community. Although Alternatives 5 and 6 are potentially implementable and effective, they require additional investigations in the form of bench and pilot scale treatability studies to further evaluate their effectiveness and implementability.